

REMARKS

The Office Action mailed November 3, 2011, has been received and its contents carefully noted. This response is filed within three months of the mailing date of the Office Action and therefore is believed to be timely without extension of time. Accordingly, Applicant respectfully submits that this response is being timely filed.

Claims 1-9, 11-22 and 24-28 were pending in the present application prior to the above amendment. Claims 6-9 and 19-22 are amended, and new claims 29 and 30 are added to recite additional protection to which Applicant is entitled. Accordingly, claims 1-9, 11-22 and 24-30 are now pending in the present application, of which claims 1-4, 6-9, 14-17 and 19-22 are independent. For the reasons set forth in detail below, all claims are believed to be in condition for allowance. Favorable reconsideration is requested.

Paragraph 2 of the Office Action objects to the title as not descriptive. Applicant notes that the objection to the title does not specifically explain why the title (“LIGHT EMITTING DISPLAY DEVICE, METHOD FOR MANUFACTURING THE SAME, AND TV SET”) is not descriptive. It is noted that the preamble of each of claims 1-9, 11, 12, 26, 27 and 29 recites a “light emitting device,” that the preamble of each of claims 14-22, 24, 25, 28 and 30 recites a “method for manufacturing a light emitting display device” and that the preamble of claim 13 recites a “TV set.” As such, the present title is believed to be sufficiently descriptive. If the Examiner maintains the present objection, then Applicant respectfully requests that the Examiner further clarify why the title is not descriptive or, if possible, suggest a title believed to be sufficiently descriptive. Reconsideration of the objection is requested.

Paragraph 11 of the Office Action rejects claims 6, 7, 9, 11-13, 19, 20, 22 and 24-26 as obvious based on the combination of U.S. Patent Application Publication No. 2001/0055841 to Yamazaki, Japanese Patent Publication No. 2003-58077 to Nakayama, U.S. Patent Application Publication No. 2001/0025958 to Yamazaki and U.S. Patent Application Publication No. 2001/0022497 to Aoki. The rejection is traversed for the reasons advanced in detail below.

As stated in MPEP §§ 2142-2144.04, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some reason, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to

modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some reason to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. “The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art.” In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The prior art, either alone or in combination, does not teach or suggest all the features of the independent claims. Independent claims 6, 7, 9, 19, 20 and 22 are amended to recite “a conductive layer consisting of a refractory metal.” For the reasons provided below, Yamazaki ‘841, Nakayama, Yamazaki ‘958 and Aoki, either alone or in combination, do not teach or suggest the above-referenced features of the present invention.

The Office Action concedes that Yamazaki ‘841 “does not appear to explicitly disclose ... a conductive layer including a refractory metal” (page 3, Paper No. 20111025). The Office Action asserts that Nakayama “discloses ... a refractory metal (Ti) ... see at least paragraph 12” (id.). However, Nakayama discloses “TiO₂” and does not disclose “Ti.” As such, Nakayama does not teach or suggest a conductive layer consisting of a refractory metal and does not cure the deficiencies in Yamazaki ‘841.

Yamazaki ‘958 and Aoki do not cure the above-referenced deficiencies in Yamazaki ‘841 and Nakayama. Yamazaki ‘958 is relied upon to allegedly teach, e.g., “a wiring layer ... covering an edge portion ... of a first electrode ... in order to connect to the first electrode” (id.) and Aoki is relied upon to allegedly teach, e.g., “the equivalence of photocatalytic materials” (page 5, id.). However, Yamazaki ‘841, Nakayama, Yamazaki ‘958 and Aoki, either alone or in combination, do not teach or suggest that Yamazaki ‘841 and Nakayama should be modified to include a conductive layer consisting of a refractory metal.

Since Yamazaki ‘841, Nakayama, Yamazaki ‘958 and Aoki do not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained.

Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

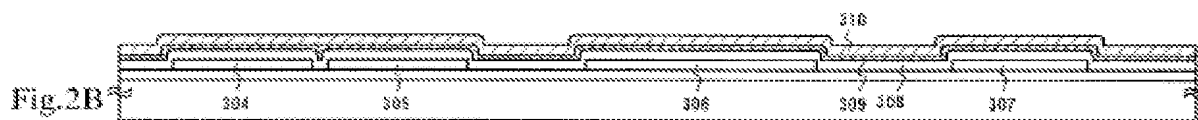
Paragraph 30 of the Office Action rejects claims 8 and 21 as obvious based on the combination of Yamazaki '841 and Nakayama. Claims 8 and 21, like claims 6, 7, 9, 19, 20 and 22, are amended to recite “a conductive layer consisting of a refractory metal.” Please incorporate the arguments above regarding the deficiencies in Yamazaki '841 and Nakayama.

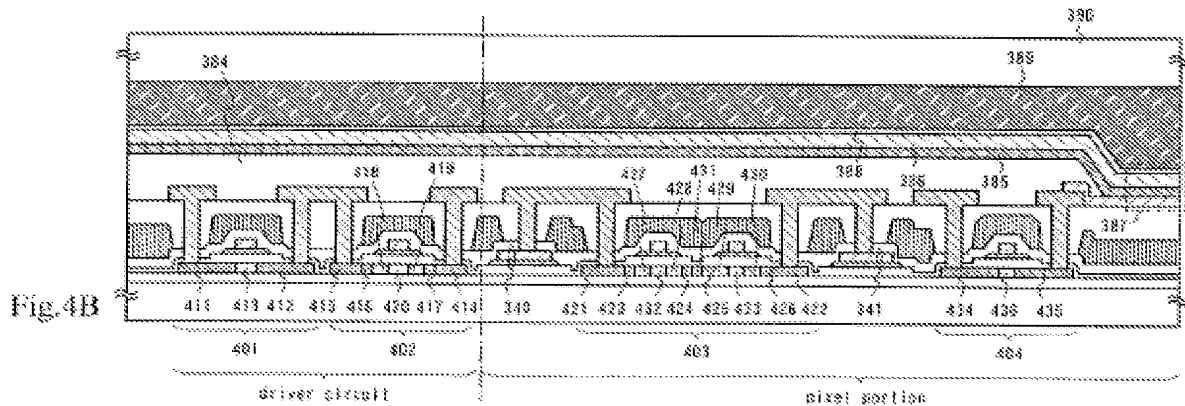
Paragraph 34 of the Office Action rejects claims 1, 2, 5, 10, 13, 14, 15, 18, 23 and 24 as obvious based on the combination of Yamazaki '841, Nakayama, Yamazaki '958, Aoki and U.S. Patent Application Publication No. 2003/0143437 to Ohtsu. Also, although not included in the list of claims set forth at paragraph 34, paragraphs 47-52 of the Office Action appear to reject claims 4 and 17 as obvious based on the combination of Yamazaki '841, Nakayama, Yamazaki '958, Aoki and Ohtsu. The rejection is traversed for the reasons advanced in detail below.

The prior art, either alone or in combination, does not teach or suggest all the features of the independent claims. Independent claims 1 and 14 recite a gate electrode; and a semiconductor layer over a gate insulating layer. Independent claims 2, 4, 15 and 17 recite a gate electrode formed over a gate insulating layer. For the reasons provided below, Yamazaki '841, Nakayama, Yamazaki '958, Aoki and Ohtsu, either alone or in combination, do not teach or suggest the above-referenced features of the present invention.

Regarding claims 1 and 14, the Office Action asserts Yamazaki '841 discloses “gate electrode (304-307)” and “a semiconductor layer (435)” (page 8, *id.*). That is, the Office Action appears to be taking the position that the island-like semiconductor films 304 to 307 of Yamazaki '841 correspond with the claimed gate electrode and that the drain region 435 of Yamazaki '841 corresponds with the claimed semiconductor layer. Applicant respectfully disagrees and traverses the above-referenced assertions in the Office Action.

Yamazaki '841 discloses that the island-like semiconductor films 304 to 307 (*see*, Figure 2B, reproduced below) are used to form TFTs 401 to 404, which includes a drain region 435 (*see*, Figure 4B, reproduced below).





The drain region 435 is formed from semiconductor film 307. As such, it is unreasonable to rely on island-like semiconductor films 304 to 307 as corresponding to the claimed gate electrode while also relying on drain region 435 as corresponding to the claimed semiconductor layer.

Additionally, in Yamazaki '841, the drain region 435 is provided below a gate insulating layer 372 (identified in Figure 3D); whereas, claims 1 and 14 recite a semiconductor layer over a gate insulating layer. Thus, the drain region 435 of Yamazaki '841 does not correspond with the claimed semiconductor layer.

Nakayama, Yamazaki '958, Aoki and Ohtsu do not cure the above-referenced deficiencies in Yamazaki '841. Nakayama is relied upon to allegedly teach "forming gate electrodes ... on a substrate having a photocatalytic surface ... by ink jet method" (page 9, *id.*), Yamazaki '958 is relied upon to allegedly teach, *e.g.*, "a wiring layer ... covering an edge portion ... of a first electrode ... in order to connect to the first electrode" (*id.*), Aoki is relied upon to allegedly teach, *e.g.*, "the equivalence of photocatalytic materials" (*id.*) and Ohtsu is relied upon to allegedly teach, *e.g.*, "that oxygen defects in a TiO₂ photocatalytic layer improve the photocatalytic properties of the layer" (*id.*). However, Yamazaki '841, Nakayama, Yamazaki '958, Aoki and Ohtsu, either alone or in combination, do not teach or suggest that Yamazaki '841 should be modified to include a gate electrode; and a semiconductor layer over a gate insulating layer.

Regarding claims 2, 4, 15 and 17, the Office Action asserts that Yamazaki '841 discloses "a gate insulating layer (372)" and "a gate electrode (339)" (pages 10 and 11, *id.*). Applicant respectfully disagrees and traverses the above-referenced assertions in the Office Action.

In Yamazaki '841, a gate electrode 339 is provided below a protecting film 372, which is shown in Figures 2E through 3D; whereas, claims 2, 4, 15 and 17 recite a gate electrode formed over a gate insulating layer. Thus, Yamazaki '841 does not teach or suggest a gate electrode formed over a gate insulating layer.

Nakayama, Yamazaki '958, Aoki and Ohtsu do not cure the above-referenced deficiencies in Yamazaki '841 (see, the discussion above). However, Yamazaki '841, Nakayama, Yamazaki '958, Aoki and Ohtsu, either alone or in combination, do not teach or suggest that Yamazaki '841 should be modified to include a gate electrode formed over a gate insulating layer.

Therefore, Applicant respectfully submits that Yamazaki '841, Nakayama, Yamazaki '958, Aoki and Ohtsu, either alone or in combination, do not teach or suggest the above-referenced features of claims 1, 2, 14 and 15.

Since Yamazaki '841, Nakayama, Yamazaki '958, Aoki and Ohtsu do not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

Paragraph 57 of the Office Action rejects claims 3 and 16 as obvious based on the combination of Yamazaki '841 and Nakayama. Claims 3 and 16, like claims 1 and 14, recite a gate electrode; and a semiconductor layer over a gate insulating layer. Please incorporate the arguments above regarding the deficiencies in Yamazaki '841 and Nakayama.

Paragraph 61 of the Office Action rejects dependent claims 27 and 28 as obvious based on the combination of Yamazaki '841, Nakayama, Yamazaki '958, Aoki and Ohtsu. Please incorporate the arguments above regarding independent claims 1, 3, 6, 8, 14, 16, 19 and 21. The portion of Yamazaki '841 allegedly corresponding to the feature of "an insulating layer covering an edge portion of the semiconductor layer" does not cure the above-referenced deficiencies in the rejections with respect to claims 1, 3, 6, 8, 14, 16, 19 and 21.

New dependent claims 29 and 30 are added to recite additional protection to which Applicant is entitled. The features of claims 29 and 30 are supported in the present specification, for example, by at least original claims 10 and 23. For the reasons stated above

and already of record, Applicant respectfully submits that new claims 29 and 30 are in condition for allowance.

In view of the foregoing, Applicant respectfully requests allowance of the instant application. If a conference would be helpful in expediting prosecution of the instant application, the Examiner is invited to telephone the undersigned to arrange such a conference.

Respectfully submitted,

NIXON PEABODY, LLP

/Jeffrey L. Costellia, Reg. No. 35,483/
Jeffrey L. Costellia
Registration No. 35,483

NIXON PEABODY LLP
CUSTOMER NO.: 22204
401 9th Street, N.W., Suite 900
Washington, DC 20004
Tel: 202-585-8000
Fax: 202-585-8080